ICE MELTING AND CLEARING ROOF ROD

BACKGROUND

In many areas, temperatures may drop below freezing for extended periods. In addition, such areas may be subject to precipitation (such as snow or freezing rain) that may build up on the roofs of various structures. Such structures may typically be heated (and/or have heat absorbing elements such as black shingles) that may cause built up snow to thaw and re-freeze such that an ice dam is created.

Ice dams are ridges of ice that form at the edge of a roof and prevent water from melting snow (and/or ice) to drain off the roof. Water may back up behind the ice dam and leak into a home, causing damage to walls, ceilings, insulation, etc.

Existing solutions utilize ice-melting compounds in forms such as loose granular pieces and formed puck-shaped products. Loose granular compounds may not stay at a particular location as water may carry the grains to other locations. Maintaining the position of the grains using items such as socks or other containers is cumbersome and requires future removal of the containers. Puck-shaped melt products may pool melting water at the puck location without providing a path over or through the ice dam. In addition, a puck-shaped product may unnecessarily limit the surface area of exposed melting compound.

Thus there is a need for an ice melting and clearing solution that maximizes the surface area of a melting compound, retains a position, and provides a channel for drainage through an ice dam.

SUMMARY

Some embodiments provide an ice melting and clearing roof rod. The rod may be substantially cylindrical. Alternatively, different embodiments may have different shapes (e.g., circular, rectangular, triangular, etc.) that extend along a length of rod.

The roof rod may include various ridges and/or grooves that provide additional surface area compared to a smooth finish. In some embodiments, the roof rod may include one or more placement features (e.g., through-holes) that may allow the rod to be positioned as desired on a roof of a structure.

Alternatively to or conjunctively to the shapes extending along the length of the rod, the roof rod may have textures or patterns that modify the depth of such shapes along the length of the rod (e.g., fish-scale or saw tooth patterns). Such textures and/or patterns may allow the rod to retain a position along a roof or other structural element.

The roof rod may include various appropriate ice-melting materials. The roof rod may melt ice or snow in contact with the rod. The roof rod may create a channel that allows water to flow along the rod and past any ice dams.

The preceding Brief Summary is intended to serve as a brief introduction to various features of some exemplary embodiments of the invention. Other embodiments may be implemented in other specific forms without departing from the spirit of the invention.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

The novel features of the invention are set forth in the appended claims. However, for purpose of explanation, several embodiments of the invention are illustrated in the following drawings.

FIG. **1** illustrates a front elevation view of an ice melting and clearing roof rod according to an exemplary embodiment of the invention;

FIG. **2** illustrates end views of multiple roof rods of some embodiments

FIG. **3** illustrates an end view of a star-shaped roof rod with increased surface area of some embodiments;

FIG. **4** illustrates an end view of a grooved roof rod with increased surface area of some embodiments;

FIG. **5** illustrates front and side elevation views of the roof rod of FIG. **1** with placement features of some embodiments;

FIG. **6** illustrates front and side elevation views of a surface texture used by some embodiments of the roof rod of FIG. **1**;

FIG. **7** illustrates side elevation and top views of a structure with an associated ice dam;

FIG. **8** illustrates side elevation and top views of a house with multiple deployed roof rods of FIG. **1** during use;

FIG. **9** illustrates a flow chart of a conceptual process used by some embodiments to place the roof rod of FIG. **1**; and

FIG. **10** illustrates side elevation views of roof rod deployment using a placement tool of some embodiments.

DETAILED DESCRIPTION

The following detailed description describes currently contemplated modes of carrying out exemplary embodiments of the invention. The description is not to be taken in a limiting sense, but is made merely for the purpose of illustrating the general principles of the invention, as the scope of the invention is best defined by the appended claims.

Various inventive features are described below that can each be used independently of one another or in combination with other features. Broadly, some embodiments of the present invention generally provide an ice melting and clearing roof rod.

Such a rod may include various appropriate materials (e.g., calcium chloride, sodium chloride, amide, potassium chloride, etc.) that may be used alone or as a mixture of multiple such materials. In addition, various other materials may be used when manufacturing the rods or included in final products as appropriate. For instance, some embodiments may use a modified amide and glycol admixture.

Some embodiments may include colored elements such that a user is able to see a visual indication of melting snow and ice and/or drainage channels provided by the rods. Such colors may be able to be washed away (and/or dissipate as water drains away, be dispersed during rainfall, etc.).

The "rods" may be formed into various appropriate shapes, as described in further detail below.

FIG. **1** illustrates a front elevation view of an ice melting and clearing roof rod **100** according to an exemplary embodiment of the invention. As shown, the rod may be a solid cylinder.

The rods may be formed in various appropriate ways. For instance, various ice melting materials may be mixed together along with other elements (e.g., water, bonding or forming agents, etc.) and placed in a mold until the mixture has solidified. Alternatively, a dough-like mixture may be pressed through a form or otherwise extruded such that rods may be formed.

The rods may be sized in various appropriate ways and depending on various relevant factors. For instance, different combinations of materials may induce structural limitations (e.g., minimum radius needed to support a particular length of rod, maximum length at a given radius, etc.). As one